Contract NAS5-30355
Attachment A

STATEMENT OF WORK

SOLAR BACKSCATTER ULTRAVIOLET RADIOMETER (SBUV/2)

November 1998

GODDARD SPACE FLIGHT CENTER
Greenbelt, Maryland

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STATEMENT OF WORK SBUV/2 REVISION PAGE

MOD NO.	DATE	CCR NO.	DATE	SECTION
41	03/03/94	1174	09/13/93	4000
42	04/04/94	NONE	NONE	I, 7000
48	11/17/94	1174	09/13/93	4000
56	01/22/96	1368	10/27/95	Title, Revision page, I, II, 2000, 7000
59	01/22/96	1371	11/01/95	2000
60	01/22/96	1338	11/01/95	2000, 7000
77	11/14/97	1524	01/12/98	4000
88	12/04/98	1500	10/10/97	I, II, 2000, 4000, 7000
110	01/03/02	1798	04/03/01	9000

NAS5-30355
CONTRACT ATTACHMENT A

Statement of Work
Solar Backscatter Ultraviolet Radiometer (SBUV/2)

November 1998

I. Scope

The Contractor shall provide for the fabrication, qualification, storage, storage testing, delivery, post delivery bench testing, and other necessary field support of four flight SBUV/2 instruments, Flight Models 5, 6, 7, and 8 starting with BASD Model No. IN021A, Part No. 67901-509 which meets the requirements of GSFC Specification S-480-31, for incorporation on the L, M, N, and N' series of Advanced Tiros-N (ATN) spacecraft.

II. General Requirements

The Contractor shall provide for the personnel, material, and facilities necessary to design, fabricate, qualify, test, and calibrate four SBUV/2 flight units. These SBUV/2 flight units shall be fabricated, tested, and calibrated in accordance with all existing, approved SBUV/2 Integration, Functional, and Acceptance Test Procedures and all of the above shall be in accordance with the requirements of GSFC Specification S-480-3l.

III. Functional Tasks

1000. Program Management

The Contractor shall provide a program office for technical and resource management of the program which shall be staffed with a dedicated project manager and a systems engineer, when required, for instrument fabrication, test, and calibration. The Contractor shall provide the additional support staff required for all tasks and services carried under this segment of the Work Breakdown Structure and defined, in more detail, in the instrument specification and the Contract.

2000. Design and Analysis

The Contractor shall provide the personnel and facilities necessary for any design effort required, including the FM 6 and 7 design improvements listed herein, and shall also include the system interface

design and the optical, electrical, mechanical, and thermal design of the instruments. The required personnel must include a lead design engineer in each of the following disciplines; electrical, mechanical, thermal, and optical, as required, dedicated when necessary, to the program through the design phase and who will be available on a priority basis, thereafter. FM8 shall include the FM7 design improvements and the servo and microphonic response upgrades. Grade 2 parts may be used where available from project stores, however Grade 1 parts shall be specified for new procurements when required by the approved Parts Control Plan.

The Flight Model 6 design improvements are:

(1) change the diffuser angle for the Solar position to 37 degrees from the horizontal reference;

(2) provide a Range 3 radiometric data channel which uses anode current or cathode current for the analog input.

The Flight Model 7 design improvements are:

(1) replace the Programmable Read Only Memory (PROM) with a Random Access Memory (RAM);

(2) change the diffuser angle for the Solar position to 37 degrees from the horizontal reference;

(3) provide a Range 3 radiometric data channel which uses anode current or cathode current for the analog input.

3000. Engineering Support

The Contractor shall provide the personnel and facilities necessary for the general program support activities including, but not necessarily limited to, material and processing engineering, sustaining electrical engineering for system fabrication, integration, and test, production engineering, UV radiometry and calibration data analysis, and any other support activities carried under this segment of the Work Breakdown Structure.

4000. Flight Model Fabrication, Assembly, and Test

The Contractor shall provide the personnel, materials, and facilities necessary to accomplish the following tasks:

(1) procure and/or fabricate all components of the structure, the electronics, and all other required and critical spare parts/components/ subassemblies for the flight instruments. Critical spare parts/components/subassemblies shall be provided in accordance with Attachment C, deliverable requirements Item 5A; Any additions or deletions to Item 5A require prior written authorization from the Contracting Officer. The critical spares/subassemblies program shall meet the following objectives:

1. Provide Spares necessary to repair instruments quickly to meet call-up requirements.
2. Minimize the reliance on specific persons, skills and instrument knowledge to troubleshoot, make repairs, or support refurbishment.
3. Minimize cost of providing support over an extended prelaunch period, making fewer skills and people necessary to support assembly and testing at the higher level.
4. Reduce costs through processing several assemblies concurrently, and utilizing the current high position on the learning curve.
5. Make available assemblies, which could be used to upgrade older instruments, at a lower cost than individual upgrade programs.
6. Maintain key skills until refurbishment, upgrades or repairs are required.

(2) perform all board level electrical tests and integrate all the electrical and mechanical subassemblies; and

(3) perform all required functional and acceptance tests of the mechanisms and subassemblies.

(4) The contractor shall build the FM8 unit, using parts and assembly(s) procured under the Spares Support Program Mod 77.

6000. Systems Integration, Test, and Calibration

The Contractor shall provide the personnel and facilities necessary to develop the required test documentation to perform the system integration and system functional tests, and to perform and document the final acceptance tests and calibration of the flight units.

7000. Test Equipment and Fixturing

The Contractor shall provide the personnel, materials, and facilities necessary to accomplish the following tasks:

(1) checkout and maintain all test equipment which shall include the systems test equipment, the calibration test fixture(s), the automated data systems (including software), the chamber test equipment, and the bench check unit, and all other required fixturing and miscellaneous test equipment developed and fabricated or purchased under Contracts NAS5-26400 and NAS5-29230 and NAS5-30355;

(2) provide the necessary modernization to any test equipment, when required, which long term maintenance and/or obsolescence might require.

(3) provide necessary fixtures and checkout equipment to support the FM 6, 7, and 8 improvements as previously defined.

8000. Product Assurance

The Contractor shall maintain a Product Assurance Office sufficiently staffed and with the facilities necessary to provide the required reliability and parts engineering, quality assurance engineering for the fabrication, integration, acceptance testing, and calibration of the flight units, and materials control.

9000. Field Support

The Contractor shall provide the personnel and facilities necessary to prepare and pack the instruments for shipment, shall contract for and arrange said shipment to the spacecraft facility, and perform the Bench Test of each instrument at the spacecraft contractor's facility, shall pack and arrange for shipment of all test equipment being returned to his facility and shall remove the contamination mirrors from each instrument prior to shipment to the Western Space and Missiles Center. In addition, the Contractor shall provide additional field support or other support, as outlined in Sections 7.4.2 through 7.4.6 of the instrument specification and defined in Section C of the contract.

CCR 1798 MOD 110